DOCUMENT RESUME

ED 131 737 HE 008 236

AUTHOR Pace, C. Robert
TITLE Evaluating Higher Education. Topical Paper No. 1.
INSTITUTION Arizona Univ., Tucson. Coll. of Education.
PUB DATE Jul 76
NOTE 24p.
AVAILABLE FROM Chairman, Committee on Higher Education, University of Arizona, 1415 N. Fremont, Tucson, Arizona 85719 ($2.00)

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS *College Role; College Students; Educational Assessment; Educational Experience; Educational Responsibility; *Environmental Influences; Evaluation Criteria; *Higher Education; *Models; *Student College Relationship; *Student Development; Student Evaluation; Summative Evaluation

ABSTRACT

The ways many people view higher education today are examined, especially some of the ways evaluators, researchers, and others are assessing college benefits and college impact. Trends toward getting a college education without going to college are discussed, with reference to the evaluation design of the input-environment-output model. College effects of college impact or environmental influences are defined as what is left after input differences have been accounted for. This model is criticized for suggesting that four years in college has no significant impact on a student. Suggestions are offered that depart from the common, experimental, cause-and-effect research model. A contextual model is proposed for evaluating student development in college. The basic features are suggested by the words: experience and events, environment, and effort, leading to development and "impress." (LBH)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED131737

Topical Paper No. 1

EVALUATING HIGHER EDUCATION

C. Robert Pace

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

HE 008 236

Higher Education Program
College of Education
University of Arizona

July, 1976

HIGHER EDUCATION PROGRAM
COLLEGE OF EDUCATION
UNIVERSITY OF ARIZONA

The Higher Education Program at the University of Arizona was established first in the early 1960's and reorganized in 1974 to expand as an area of scholarly inquiry, research, instruction, and public service. The Program conducts studies, projects, conferences, and forums and makes the results available to other institutions and persons with mutual concerns. Graduate degree programs are designed to prepare two types of administrators: generalists who coordinate policy development and decision making and specialists who facilitate the flow of technical information and provide expertise in a special area. Research programs are conducted in critical areas of public policy concern whether it be state or regional, national, or international in scope. Similarly, public service projects are conducted in major fields of policy study and development. The long-run goals of the Higher Education Program are to contribute to the continuing change and improvement in the administration of Higher Education through the education of its graduates and the improvement of public policy through its research studies and public service projects.

The Program's publications are designed to be relevant to the needs of the University, to the State of Arizona, and to colleges and universities throughout the country. They can be obtained on a limited basis by institutions and associations which are able to exchange publications of a comparable type. Others may obtain copies for $2.00 each, which includes mailing, handling, and printing costs. Inquiries should be addressed to the Chairman, Committee on Higher Education, University of Arizona, 1415 North Fremont Street, Tucson, Arizona 85719.

EVALUATING HIGHER EDUCATION

by

C. ROBERT PACE
Professor of Higher Education

Higher Education Program
College of Education
University of Arizona

Topical Paper No. 1

July, 1976

EVALUATING HIGHER EDUCATION

The main theme of this essay is that the ways many people are viewing higher education today, and especially some of the ways evaluators, researchers, and others are assessing college benefits and college impact, are leading to some curious conclusions. Many of these conclusions are based on accurate knowledge, within the confines of the concepts and methods by which the knowledge was produced. But accurate knowledge is not necessarily adequate knowledge and may lead to curiously inadequate and incorrect judgments. So, I propose to examine some of our curious conclusions and note what makes them curious.

But first, I'd like to set the stage, introduce a few characters, and reflect on some past research.

Twenty-five to fifty years ago the desirability of going to college--for those who wanted to go and were qualified and could afford it--was simply taken for granted. In those days higher education was mostly private, mostly selective, not a mass activity, and not much of a demand on a state budget. Now, it's mostly public, less selective, increasingly a mass activity, and a very sizeable item in state budgets.

As more and more people have encountered higher education, more and more people have had something to say about it. The encounter may have been their own experience of going to college, or their children's experience; or it may just be reading the newspaper, watching television, paying state and local taxes, and talking with friends. In any case, who thinks what about higher education is increasingly important--

especially when the "who" includes governors, legislators, members of coordinating councils, lawyers, efficiency experts, taxpayers, parents, and students; and when the "what" seems to generate a lot of heat.

Was it Harry Truman who said, "If you can't stand the heat, get out of the kitchen"? College faculty members don't really spend much time in the kitchen, some of them not at all; they're in the living room and the library. In the library a few of them read about what's going on in the kitchen. In the living room more of them talk about what's going on in the kitchen and what they think is wrong: the buyer is paying too much for poor quality; the dietician is not ordering the things that are good for you; the chef is not mixing and processing the ingredients for best results; and the waiter doesn't have a proper regard for gracious dining. Well, what comes out of the kitchen is what you're going to eat.

Let me remind you of what was served up to us about 20 years ago, around 1956, by Philip Jacob,* a political scientist who reviewed a number of research studies in a widely quoted monograph called Changing Values in College. College students were described as unresponsive, self-centered, and little changed by their exposure to four years of education beyond high school. Their attitudes and values were largely unaffected, it was said. Much of what they are taught is impractical or unimportant, and quickly forgotten. Such personality development as may occur is minimal or short-lived. For the most part, adolescent immaturity is merely prolonged. Another observer likened the American college to a vast WPA project, giving adolescents something to do while keeping them

*Philip Jacob, Changing Values in College. New Haven: Hazen Foundation, 1956.

off the job market, and also keeping faculty members off the streets. In view of that alleged miserable record, one would suppose that the last rites were about to be performed. Incidentally, Philip Jacob was really looking for impact on values that might be attributed to social studies courses. Considering the total college experience of a full-time resident student, how much of it can be classified as social studies courses? Perhaps 5%, and probably no more than 10 or 15%. Far too much educational research has consisted of efforts to find large significance in small phenomena, and then generalizing the failure beyond the limits of the study.

For a paper I wrote in 1962* I reviewed a somewhat broader span of research related to the value of higher education and college impact; and, as you might expect, I arrived at a totally opposite conclusion. I noted, for example, that the number of students going to college had more than doubled in the previous 20-year period, and that those who experienced higher education were precisely the ones who valued it most, and who wanted more of it for themselves and for their children. A Fortune survey by Elmo Roper in 1949 reported that 62% of a cross section of adults said they would want their boy to go to college, and 50% said this about their girl. In 1961, a similar Roper survey indicated that 69% of parents with children under 18 expected that their children would go to college, and this expectation was the same for girls as for boys. Various alumni surveys consistently reported that, if they had to do it

---

*C. Robert Pace, "The College Environment as an Exemplar of Values," pages 7-23 in Higher Education in California. Working papers for the first annual California conference on higher education, California Teachers Association, 1962.

over again, 80 to 90% would not only go to college but to the same college. In a NORC survey, of students graduating in 1961, 3/4 said they expected to go to graduate school. Then I looked at some studies of what people thought about the importance of various goals or objectives. There was a Fortune survey of alumni in 1949 reporting that the three most important values of college were: training for a particular occupation or profession; a sharper, better trained mind in dealing with all sorts of problems; and the intelligence and wisdom necessary to live a full life. About that same time I did a survey at Syracuse in which we asked upperclassmen, faculty, and alumni about the importance of various goals. The interesting point here is that there was a very high degree of agreement among all three groups. In a Cornell survey of men at 11 colleges and universities, the most important objective of college education was believed to be a basic general education and appreciation of ideas; and this goal was emphasized even more strongly by upperclassmen than by students in their first or second years. They also said that the opportunity to go to college was very important to them (96%), that most of what they were learning was "very worthwhile" (75%), and that the colleges were doing a good job (80%). I then looked at evidence from achievement tests and found further support for the conclusion that the college experience was indeed influential. Suffice it to say here that all test-retest studies showed mean gains, most of them being large and significant; and these covered a variety of subjects and abilities--sciences, social sciences, math, literature, arts, and measures of critical thinking. Incidentally, I've yet to find any study showing that students knew less at the end of

a course than they did at the beginning. Interests, attitudes, values, and in a broader sense, personality, also change in college. I found 47 instances in the research literature in which a test given to freshmen was subsequently given to the same students four years later. In 75% of those instances there was a significant change. These tests purportedly measured attitudes toward various topics such as war, Negroes, religion, etc.; economic, social, political, religious, esthetic, and theoretical values or orientations; and such aspects of personality as ethnocentrism, authoritarianism, social adjustment, tolerance, and independence.

Well, so much for a bit of past history about what some research shows and doesn't show about the values of higher education, vintage 1940 to 1960. To me, the research showed that going to college was an experience that was widely wanted and valued; that those who had it valued it especially and wanted more of it; that students typically believed that they had made progress toward goals which both they and the faculty regarded as important; and from a variety of tests it was evident that, typically, students gained in breadth and depth of knowledge, in important intellectual skills and abilities, and that their attitudes and values were frequently modified.

Now, let's see what people are saying about higher education today.

In the spring of 1972 I gave a speech at Lawrence University in Appleton, Wisconsin, on the occasion of its centennial year. The first part of that speech illustrates how some of the concerns and criticisms about higher education have changed sharply, just within the past decade,

and introduces two viewpoints which I then want to explore further. So, here are a few observations I made in that speech.*

> "Some years ago there was a Broadway musical called 'How to Succeed in Business Without Really Trying.' In higher education today one of the featured attractions might be called 'How to get a college education without really going to college.' This remarkable result can be achieved through such means as credit by examination, the university without walls, the extended university, the off-campus degree program, and other variations and improvements on what, in an earlier time, might have been called extension programs and correspondence courses.
>
> "It is common advertising practice to use nice words in describing whatever it is you want to promote and to use bad words in describing whatever it is you aim to replace. So, we have flexible and individualized alternatives to traditional education--we break the lockstep of the four-year program, enabling people to learn at their own rate, we give credit for achievement and we certify competence rather than time spent or classes attended.
>
> "In another decade or so the college campus will be obsolete, so it seems. The college professor will be replaced by the electric plug. Young and old can hook into the exciting riches of television, tape cassettes, and computer consoles. And we can all wear headsets so as not to disturb the neighbors.
>
> "Moreover, there are too many young people in college who don't genuinely want to be in college. The campuses harbor too many alienated, permissive, pot-smoking youth; or is it too many radical activists plotting revolutions to remake society? Why should our tax dollars or our hard-earned savings support such places? Maybe some sound business management is needed to eliminate waste, promote efficiency, operate on a balanced budget, and show us exactly what we are getting for our dollars.
>
> "In any case, it is surely still true that higher education is being evaluated widely and vigorously by the public, by students, and by the profession itself. It is therefore important to know how it is being evaluated: Who is making what observations? What goals or purposes are assumed? What consequences are being explored? And most important of all, what concepts about the enterprise of education itself are determining what to look for and how to interpret the results?

---

*C. Robert Pace, "Who Needs Colleges?", unpublished speech given at Lawrence University, May 16, 1972.

"One view holds that education is an end result, a product, an achievement. It is what one knows, and what skills one has. Its attainment is measured by final exams and term papers and scores on objective achievement tests. After all, we don't give grades for character, or for interests, attitudes and values, or for effort, or for good habits. Educational research and evaluation, given this concept of education, consists of trying to find out what treatments--that is, what methods, materials, sequences, and other modes of learning and instruction--produce the specifically-desired results with the greatest efficiency and economy. One needs, of course, to be quite clear about the specifically-desired results. The current jargon for this is behavioral objectives. Achievement test items are the operational definitions of these behavioral objectives. A treatment is successful if those who have it score higher than those who don't--other things being equal. The pressure for accountability and for economy has led to an acceptance of scientifically-clothed conclusions about such things as the virtue of programmed instruction, the economy of large classes, and the efficiency of teaching and learning to specifically-defined behavioral objectives.

"One does not need to be on a college campus to read a book, or to follow a programmed lesson, or to look at a television screen. If we define education solely as the possession of certain knowledge and skill, we already know that many people can pass the tests without ever setting foot on a college campus. To those who can, let us by all means give them a certificate or a degree attesting to their achievement. But let us not equate their achievement with the experience of going to college.

"There is a different view or concept which holds that education is also a process, a particular kind of experience. Education is a process in which one engages intellectually, emotionally, and actively. The institutional setting in which the experience or process of education takes place has a special importance and leaves a special impression on the minds and memories of those who experience it. I'm quite sure, for example, that coming upon the paintings of Goya in the Prado museum or in the cathedral at Toledo is very different from seeing them in the pages of an art history book. Seeing the Grand Canyon in Arizona is different from seeing it in the National Geographic. So, too, there seems to be a lasting imprint that comes from being in such places as Harvard, Yale, Princeton, Dartmouth, Amherst, Michigan, Wisconsin, Chicago, Berkeley, and Brigham Young, and many other colleges and universities across the land of varying degrees of distinction or distinctiveness or of special meaning to those who have attended them.

"Over the years I've known a good many people who graduated from Yale or who have taught there. Without exception, and with little or no provocation, they talk about Yale with pride, with criticism, with

concern, with interest, and with great affection. It's amazing! But I'm also sure that it's not unique to Yale. I suspect it's because colleges and universities, at their best, offer a kind of experience not offered by any other major institution in our culture.

"A college or university is a habitat, a society, a community, an environment. As such, its value might be judged by the quality of life that it fosters, the opportunities for experience and exploration it provides, the concern for growth, for enrichment, and for culture that it exemplifies. The question is not just 'what does your machine produce?' but also 'how does your garden grow?'"

So, the context of criticism has turned to criteria of productivity, technological efficiency, costs, return on investment, and studies of something called output with something called input somehow controlled. And, in contrast, a more humanistic and personal development and ecological view of education is demanding recognition.

The typical evaluation design today is an input-environment-output model. College effects or college impact or environmental influences are defined as what's left after input differences have been accounted for.

The virtue of the model is that it guards against attributing to the environment a result that is predictable without any environmental intervention. But the vice of the model is that it makes some obvious environmental influences impossible to demonstrate. Suppose high scores on measures of theoretical orientation, complexity, and thinking introversion are relevant and desired outcomes for Swarthmore. Suppose students' scores on these measures at entrance are also typically high and that initial and final scores are highly correlated. The inevitable conclusion would be that spending four years in the academic hothouse environment of Swarthmore where such values are constantly rewarded has no impact on students! Within the logic of the research model, that conclusion is

accurate. It's also very curious! If the rank order of talent of UCLA basketball players as seniors is highly predictable from their talent as freshmen, then John Wooden's coaching had no impact--even though all players improved markedly. Obviously no one at UCLA would believe such a curious statement.

My general uneasiness with the input-environment-output model is philosophical as well as technical. I'm not sure that a productivity or output model is the right way, or even a desirable way, to think about the purpose and function and benefit of higher education, and to evaluate its impact on students. The more specific and limited an objective is, the easier it is to devise a series of lessons to assure that students will attain it, and therefore demonstrate "impact" and "accountability" to a gullible audience. But the sum of such small parts does not add up to the whole of higher education; in fact, it may well add up to a distortion of higher education. My own interests in evaluation are with more global purposes--one typically associated with general or liberal education, depth of understanding in a discipline, and knowledge, values, and skills relevant to a profession. What on earth is mastery learning with respect to such goals as moral development, intellectual curiosity and skepticism, esthetic sensitivity, critical thinking, awareness of relationships and consequences, an understanding of how knowledge is created and truth claimed and replaced by deeper insights, or the recognition of quality and excellence and virtue?

Nevertheless, governors, legislators, taxpayers, and many new students are asking, "What are we getting for our investment?" So we

tell them how many students graduate or drop out, what the faculty teaching load is and the cost per credit hour, and who gets what kind of jobs. By accepting the validity of the question and trying to answer it in productivity terms, we reinforce the productivity concept of what higher education is all about. Perhaps we ourselves should be asking different questions and trying to answer them in different terms.

We might agree, for example, that the national interest in consumerism, truth in advertising, etc., is fine and dandy. But we should point out that it has little if any validity or application to most college and university education. It's true that the consumer (student) is buying the opportunity for a particular sort of experience and that he expects this to be of value. But the consumer is not buying a product. In education, the consumer <u>is</u> the product!

Another curious conclusion today is that the economic value of a college education is much less than it used to be. That's true; but it's also curious. Let's consider an analogy. Suppose that going to church results in salvation. In a time when few people go to church, the chosen few who are saved are conspicuous from the pagan masses. But now suppose that everyone or nearly everyone goes to church and is therefore saved. Does this really mean that salvation is of any less value? I wouldn't think so. I would think rather that salvation was the good fortune of many more people; so Halleluia, or praise Allah!

The indicators commonly used for showing college benefits are <u>separately</u> liable to much misinterpretation. For example:

Single criteria, such as GRE scores or percent of students going to graduate school, are not appropriate for all kinds of institutions. Some institutions have vocational purposes rather than general education (GRE) purposes. Some institutions are primarily terminal rather than preparatory for further education.

Single criteria, such as percent of entering students who subsequently obtain a degree, are not appropriate for all kinds of institutions--especially for community colleges which, by this criterion, would have to be described as a national disaster.

Single criteria, such as obtaining a job in a field related to one's college study are also inappropriate, partly because some college graduates do not enter the job market, partly because who gets what sort of job depends as much or more on the general state of the economy (which colleges do not control) as on the vocational emphasis of one's college courses, and partly because many students do not choose a major field for its vocational relevance in the first place.

Basically the reason this is so is that, despite many similarities among colleges and among college students, not all institutions have the same purposes, nor do all students have the same talents and aspiration. I stated this in my book The Demise of Diversity?* as follows:

> "Our image of higher education was not one that saw it as many different institutions each trying to do the same thing, and achieving some uniform goal with greater or lesser success.... Rather, we viewed higher education as a legitimately diverse enterprise in which certain kinds of institutions emphasize some goals to a greater extent than others and whose influences may be generally congruent with those differences in emphasis." (page 21)

Note also the following point of view, again quoted from The Demise of Diversity?:

> "Information about alumni or about upperclassmen does not readily lend itself to proving that college caused their subsequent behavior and status in life or their current interests and attainments. Nevertheless, college graduates and college students, as consumers of higher education and former or current participants in the experience of higher education, are uniquely qualified to report on the benefits

*C. Robert Pace, The Demise of Diversity? A Comparative Profile of Eight Types of Institutions. Berkeley: Carnegie Commission on Higher Education, 1974.

> and influences of going to college. They have individually contributed to the quality of their own college experience and selectively consumed the variety of opportunities for learning and development which college made available to them. In this sense, it is inappropriate to consider them as educational 'products' comparable to the products of a factory which receives and processes raw material. They were rather well-developed material when they arrived on the college campus, having some 18 or more years of prior development with all the cumulative experiences of inheritance and family, neighborhood, friends, church, and prior schooling. While college offers a kind of experience not offered by any other major institution in our culture, it is also for the person experiencing it part of a cumulative life history. One cannot separate education from all other experience in some cause-and-effect relationship. At the same time, an evaluation of higher education which ignored the reflections and subsequent lives of alumni or the interests and judgments of current students would surely be inadequate and incomplete. An exploration of patterns of association between college experiences, personal background, type of institution attended, and various student and adult activities, viewpoints, and characteristics can throw some light on how the diverse system of higher education operates in its natural setting." (pages 21-22)

Embedded in the above two quotes are the following propositions:

> Educational development occurs within a larger context of personal development.
>
> What students get out of college depends on what they put into it; they are selective consumers of the experiences that are theoretically possible.
>
> One can identify broad patterns of association but not cause and effect relationships in any rigorous sense; the variables are too volatile, too interrelated, and the important criteria are too global.

The criteria I cited above are not personal (psychological) development criteria, with the exception of the cognitive skills and knowledge measured by the GRE. In fact, most nationwide comparative studies in higher education have been made in relation to sociological or behavioral indicators, such as dropping out, graduating, getting a Ph.D., employment, income, etc.

When the purpose of inquiry is to determine the relative influence of various personal and environmental conditions on some objective outcome

measure (such as dropping out of college), and the data base is a heterogeneous population of students distributed over a diverse set of institutions, the input-environment-output research model as used by Alexander Astin is appropriate. The main reservation I have is the case in which an outcome measure is a personal characteristic that is more or less identical to a personal characteristic used as an input measure. An example would be SAT scores as an input measure and an output measure which has a heavy component of verbal and mathematical facility such as GRE scores. In that case so-called environmental influences are guaranteed to be minimal: for maximum influence would require that those with the lowest SAT scores subsequently made the highest GRE scores, and vice versa. No educational program is designed to produce such a result. Basically then, if an input and output characteristic are highly correlated in the first place, the search for environmental influences or differential impact automatically becomes a search for small differences. While there is nothing logically faulty about the input-environment-output model even under these conditions, one needs to be aware that the cards are stacked against finding environmental influences, and that some of the conclusions may therefore be a bit curious.

I don't have any patented alternative model guaranteed to produce conclusions that are less curious than some of the models I have criticized. But I've been thinking about it for some time, and I do have some suggestions which depart radically from the common experimental cause-and-effect research model. We could, for example, abandon the notion that it's necessary to control for student input in order to

determine college impact. And we could abandon the concept of college impact, and think instead about student development and college impress. These heretical ideas have their origin in a clinical and developmental perspective rather than in a comparative, statistical perspective; and their relevance is for local institutional self-study rather than for national system-wide studies. In local studies there is no real necessity to have comparative data. The fact that students who come to the college are different from students who go to some other college is irrelevant. The local questions is simply this: given the students who come here, what happens to them and what are they like when they leave?

In the input-environment-output model, the environment is the black box, the machinery which causes or explains differences in the student between arrival and departure. Suppose we turned this upside down and said that the environment is the input in the sense that it's what's there in the first place, the initial given. The college--its curriculum, faculty, facilities, resources, policies, etc.--exists before the student comes to it. The question then is to learn how students use the environment, how the nature and quality of what they do influences their own development, and how the environment presents opportunities and rewards for student responses.

I refer to this emergent model of mine as a contextual model for evaluating student development in college. The basic features of the model are suggested by the words: experience and events, environment, and effort, leading to development and impress. Now let me illustrate what I mean by these words.

Experience and Events

Experience consists of events.

Events have a quality as a whole.

This quality or meaning is the resultant of the interaction between the experiencer and the world, or physical event.

The meaning of an event, therefore, consists of the context which the experiencer brings to it and the context of the physical event.

The college experience consists of the events that occur in a college environment.

Since the experiencer is an integral and inseparable part of the meaning or quality of an event, the characteristics of the experiencer (knowledge, ability, personality, etc.) that are brought to bear on any given event are part of the event itself; and therefore psychologically it would seem unnecessary and perhaps inappropriate to treat student characteristics as "input" to be "parcelled out" in research designs for studying "college effects."

So, the first major feature of a contextual model for studying college effects is to eliminate the separate treatment of variables that have heretofore been defined as student input.

Environment

The college environment consists of the events and experiences that occur in it, reflecting the purposes of the institution and how it functions.

These purposes and functions are revealed operationally by the clarity and strength with which they are perceived by the people who live in the environment, based on their experiences.

There are three basic types of dimensions that characterize and differentiate among college environments: a) personal development dimensions; b) relationship dimensions; and c) system maintenance and system change dimensions.

Personal development dimensions reflect the purposes of the institution, that is, to afford opportunities for and give emphasis to the learning and development of students. There are four major lines of student development which are the concern, to a greater or lesser degree, of all colleges and universities: a) academic--scholarly--intellectual; b) esthetic--expressive--creative; c) critical--evaluative--societal concern and personal commitment; and d) vocational--occupational competence.

Relationship dimensions assess the extent to which individuals are involved in the environment, tend to support and help one another, and generate a sense of belonging. There are two major aspects that are important and that can be differentiated: a) peer group relationships; and b) relationships between students and faculty, administrators, and other officials.

System maintenance and system change dimensions refer to how the institution operates as an institution, that is, to its bureaucratic--organizational--regulatory--and innovative features.

In most, and perhaps all but the most homogeneous environments, the strength of these environmental dimensions or emphases will differ from one part of the environment to another--as between engineering and fine arts, or between residents and commuters, for example--so that an adequate characterization of the environment of the college or university is one which permits differences to be revealed, if there are such, between major segments of the environment.

In addition, the potency of environments for influencing student development depends on certain qualities of and relationships among the various dimensions as well as on their separate strength. These qualities and relationships probably involve at least three further observations or measurements--intensity, pervasiveness, and congruence. Thus, a particular environmental dimension (events and experiences) may be typically intense or typically bland; it may be pervasive across time and place within the environment or it may be sporadic or localized; and the environmental emphasis felt in one part of the environment may be congruent or dissonant with the emphasis in another part of the environment.

So, the second major feature of a contextual model for studying college effects is the identification of the environmental contexts in which college events and experiences occur.

Effort and Exposure

With rare, and perhaps no exceptions, all learning and development in college involves some degree of effort on the part of the student. How much one learns depends on the effort made to learn it.

Effort, whether large or small in amount, also has a quality dimension. The quality of cognitive effort can range from low-level cognitive activities such as memorizing facts, principles, and terminology, to higher level cognitive activities of application, analysis, synthesis, and critical evaluation. The quality of affective effort can range from disinterest and indifference to more positive responses reflecting increasing levels of interest, enjoyment, and satisfaction. The quality of energy or behavior can range from passive to active, from silent spectator to active participant and public advocate.

Quality, like frequency, is a vertical dimension ranging from high to low. Activity scales, in which the response indicates frequency, but the content reflects levels of quality, can thus provide simultaneously a measure of amount and of quality. Such scales could be developed for different aspects of college experience--classroom learning, extracurricular activities, peer group conversations, etc.

Another dimension of effort is horizontal rather than vertical. This is the effort made to extend the range of events and experiences to which one is exposed. The word exposure is used to designate this additional dimension of effort.

So, the third feature of a contextual model for studying college effects is the identification of the quality of effort invested by the student in the educational enterprise. This feature is related to the enlargement and enrichment of the context which the experiencer brings to the events encountered.

Development

The contextual base of the experiencer may be thought of as readiness to respond to the events and experiences of the college environment. The events and experiences then presumably enlarge the contextual base of the experiencer, enabling the student to respond to stimuli of increasing breadth, depth, and integration.

The extent and direction of this development or evolution is further influenced by the context of the environment in which events and experiences occur, plus the quality of effort invested by the experiencer.

Development, presumably following this general path, is inferred from the difference in scores on criterion measures at two points in time.

Impress

While impress, in the sense of making an impression on or leaving a mark on the student, can be inferred from differences between before and after status on relevant criterion measures, one can and I think should also regard impress as a personal feeling or belief on the part of the student. Thus impress would be inferred from self-reports of change and progress toward desired goals, benefits attributed to events and experiences, and expressions of satisfaction with college. Additionally, impress also implies a more lasting mark and hence would also be measured after college by indications of continued interests, outlooks, concerns, etc., related to intellectual, esthetic, personal, social, occupational, and ethical criteria.

One of the virtues of this model or line of thinking, to me at any rate, is that it holds both the student and the college accountable. The student is accountable for the quality of investment or effort he makes in furthering his own learning and development; and the college is accountable for providing the events and the environmental context designed to stimulate learning and development.

One of the memorable lines from John Kennedy's inaugural address was, "Ask not what your country can do for you, ask what you can do for your country." Today, in evaluating higher education we should not simply ask what does college do for the student, but also what does the student do with the opportunities which college presents.

If we ask both of these questions, and in relationship to each other, we will be focusing on the educative purposes of colleges and universities and may arrive at judgments which are less curious than judgments based on more limited or perhaps less relevant perspectives.